

What is claimed is:

1. A semiconductor wafer ID recognition apparatus
2 comprising:

3 image sensing optical means for reading at
4 least one identification information (ID) marked at an
5 arbitrary position on a semiconductor wafer in
6 accordance with a plurality of first read optical
7 conditions registered in advance; and

8 recognition processing means for performing
9 recognition processing including calculation of an
10 evaluation score representing a read likelihood ratio
11 for an image output from said image sensing optical
12 means every read optical condition, and adopting a
13 recognition result under a read optical condition
14 exhibiting the highest score as an ID of the
15 semiconductor wafer.

2. An apparatus according to claim 1, wherein
2 said recognition processing means performs recognition
3 processing for a corresponding ID among a plurality of
4 IDs recorded on the semiconductor wafer in accordance
5 with the first read optical conditions, and adopts, as
6 the ID of the semiconductor wafer, a recognition result
7 under a read optical condition exhibiting the highest
8 score obtained by recognition processing under all the
9 first read optical conditions.

3. An apparatus according to claim 1, further
2 comprising informing means for generating a warning when
3 no ID can be recognized by recognition processing under
4 the first read optical conditions.

4. An apparatus according to claim 1, further
2 comprising input means for manually inputting an ID when
3 no ID can be recognized by recognition processing under
4 the first read optical conditions.

5. An apparatus according to claim 1, wherein
2 said image sensing optical means executes
3 retry processing of performing ID recognition in
4 accordance with a plurality of second read optical
5 conditions different from the first read optical
6 conditions when no ID can be recognized under the first
7 read optical conditions, and
8 said recognition processing means adopts, as
9 the ID of the semiconductor wafer, a recognition result
10 under a read optical condition where an evaluation score
11 is not less than an acceptable score and is the highest.

6. An apparatus according to claim 5, further
2 comprising informing means for generating a warning when
3 no ID can be recognized by retry processing under the
4 second read optical conditions.

7. An apparatus according to claim 5, further
2 comprising input means for manually inputting an ID when
3 no ID can be recognized by retry processing under the
4 second read optical conditions.

8. An apparatus according to claim 5, wherein
2 said recognition processing means determines that no ID
3 can be recognized when an evaluation score is under a
4 predetermined value or when an indistinct character
5 exists in a character string of a recognition result.

9. An apparatus according to claim 1, wherein
2 said image sensing optical means comprises
3 a light source which is arranged to irradiate
4 an ID on the semiconductor wafer and changes in
5 irradiation condition in accordance with the first read
6 optical conditions, and
7 image sensing means for reading the ID on the
8 semiconductor wafer irradiated by said light source, and
9 said recognition processing means comprises
10 read optical condition memory means for
11 storing the first read optical conditions,
12 light source control means for controlling
13 said light source so as to set the first read optical
14 conditions stored in said read optical condition memory
15 means,

16 ID recognition processing means for performing
17 recognition processing for each of images obtained under
18 the first read optical conditions, calculating an
19 evaluation score for each read optical condition, and
20 storing a recognition result and the evaluation score,
21 and

22 determination processing means for adopting,
23 as the ID of the semiconductor wafer, a recognition
24 result which is stored in said ID recognition processing
25 means and is obtained under a read optical condition
26 exhibiting the highest evaluation score.

10. An apparatus according to claim 9, wherein
2 said ID recognition processing means comprises
3 a recognition unit for performing recognition
4 processing for each of images obtained under the first
5 read optical conditions,
6 an evaluation unit for calculating an
7 evaluation score for each read optical condition in
8 accordance with an recognition result of said
9 recognition unit, and
10 a memory for storing the recognition result of
11 said recognition unit and an evaluation result of said
12 evaluation unit.

11. An apparatus according to claim 1, further
2 comprising transfer means for transferring the

3 semiconductor wafer to a predetermined position on the
4 basis of the ID adopted by said recognition processing
5 means.

12. An apparatus according to claim 1, wherein
2 the ID includes a first ID formed from code
3 information and a second ID formed from
4 character/numeral information, and
5 said recognition processing means performs
6 digital recognition processing of the first ID, and when
7 no code can be recognized, performs analog recognition
8 processing of the second ID.